
A New Alpine Species of *Rhododendron* (Ericaceae) from New Guinea

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ABSTRACT. A new species of *Rhododendron* sect. *Vireya* from Mount Jaya, West Papua (Irian Jaya), Indonesia, is described and illustrated. The new species, *Rhododendron xenium* Gillian Brown & Craven, is related to *R. womersleyi* and *R. rubineiflorum*, of subsection *Euwireya*, based on scale and corolla features and leaf size. An identification key to *R. xenium* and related species in subsection *Euwireya* is provided.

Key words: Ericaceae, New Guinea, *Rhododendron*.

During the Carstenz Glaciers Expedition of 1971–1972 to New Guinea, the expedition biologist, G. S. Hope, made two collections of *Rhododendron* that subsequently were identified as *R. anagalliflorum* Wernham (L. Craven, *in herb. sched.* 1972, and H. Sleumer *in herb. sched.* 1973). Following the realization by Craven in 1979 that the name *R. anagalliflorum* was commonly being misapplied to an undescribed species, subsequently described as *R. rubineiflorum* Craven (Craven, 1980), his investigation of the Mount Jaya (Carstenz Mountains) specimens led to the conclusion that these probably represented a third species. The Mount Jaya specimens key out between *Rhododendron womersleyi* Sleumer and *R. anagalliflorum* in Sleumer's (1966: 568) classic treatment of section *Vireya* for Malesia. Differences between *R. anagalliflorum* and *R. rubineiflorum* are given in Craven (1980); in Sleumer's treatment specimens of the latter species key directly to *R. anagalliflorum*. Closer examinations of the two Mount Jaya specimens, and also of specimens of related species, have now confirmed that the former specimens represent a new species of the genus, described below as *Rhododendron xenium* Gillian Brown & Craven. In the account of the Carstenz Glaciers Expedition

(Hope, 1976), the name *R. anagalliflorum* refers to the present new species.

Rhododendron xenium is placed in section *Vireya* subsect. *Euwireya* ser. *Linnaeoidea* Sleumer based on scale and corolla features and leaf size. It has the typical *Euwireya* scales, sessile, moderately lobed with a small variously colored center, and a corolla that is not salver-shaped; it is placed in series *Linnaeoidea* because of its small leaves, less than 1 cm by 0.6 cm (Sleumer, 1966). So far this species has only been recorded from Mount Jaya in the Indonesian province of West Papua (Irian Jaya) on the island of New Guinea. It appears to be most closely related to *R. womersleyi* and *R. rubineiflorum*; however, it differs from these two in numerous characters, outlined in Table 1. The most obvious differing characters are the length of the pedicel and style at anthesis, and the arrangement of the leaves. Other notable differences between the three species occur in the leaf apex shape and size, corolla shape, pedicel indumentum, perulae indumentum, stamen length, and staminal filament indumentum (Table 1).

The species epithet is derived from the Greek, *xenion*, gift to a guest, and is in reference to the long pedicel that presents the flower well above the foliage and thus facilitates feeding (and pollination) by nectarivorous birds that are presumed to visit the flowers of this species.

Rhododendron xenium Gillian Brown & Craven, sp. nov. TYPE: Indonesia. West Papua (Irian Jaya): limestone hill at S end of Carstenz Meadow, Mount Jaya (Carstenz Mountains.), alt. 3540 m, 13 Dec. 1971, G. Hope, *Carstenz Glaciers Expedition, ANU 10847* (holotype, CANB; isotype, BO). Figure 1.

A *R. womersleyi* pedicello longiore ((15.2–)19.5–31

Table 1. Species comparison table. Characters that differ among *Rhododendron xenium*, *R. womersleyi*, and *R. rubineiflorum* are shown and described.

Character	<i>R. xenium</i>	<i>R. womersleyi</i>	<i>R. rubineiflorum</i>
Leaf arrangement	scattered throughout a seasonal growth unit, not pseudowhorled	rather densely set along the distal part of the branchlet	in 3–5-merous pseudowhorls, rarely opposite
Leaf apex	short-acuminate	short-acuminate, subacute	acute to subacuminate
Leaf blade (mm)	(2–)3–8 × 2–4.5	5–8(–10, rarely 15) × 4–6(–7, rarely 10)	4.2–10 × 2–5
Pedicel			
—indumentum	scales and hairs	scales and hairs	scales only
—length at anthesis (mm)	(15.2–)19.5–31	8–12(–15)	6–6.5
Perulae	abaxial surface with scales (very sparse)	abaxial surface glabrous	abaxial surface glabrous
Calyx indumentum	scales and hairs	scales and hairs	scales
Calyx lobe lengths (mm)	0.7–1.5	0.6–1.3	1.3–1.5
Corolla curvature	slightly curved	slightly curved	straight
Corolla shape	campanulate	tubular	campanulate, broadly funnel-shaped campanulate
Corolla length (mm)	(15–)17–20	21–25.7	13–24
Corolla tube length (mm)	(9–)11–13.5	15.3–19.5	10–14
Corolla lobes	circular, circular-obovate	obovate-circular	obovate-wide oblong
Stamens	slightly longer than corolla tube	slightly longer than corolla tube	shorter than the corolla tube
Filaments	± hairy at the very base, glabrous above	glabrous, sometimes hairy in the proximal region	glabrous
Ovary dimensions (mm)	(2.7–)3–4 × ca. 2	4 × 1.5	2.2–3.5 × 1.5
Style length at anthesis (mm)	4.3–8.4	10.5–12	1.3–3

mm) et corolla longiore per anthesin, corolla campanulata et brevior ((15–)17–20 mm), et stylo brevior (4.3–8.4 mm) et *R. rubineifloro* foliis dispersis et lamina apice breviacuminata, perulis lepidotis persparsim, pedicello longiore et lepidoto pilosoque, corolla parum curvata, filamentis staminium pilosis, et stylo longiore differt.

Terrestrial shrub to ca. 20 cm tall. *Branchlets* moderately to densely lepidote (the scales in part persistent), terete to subterete. *Leaves* dispersed throughout a seasonal growth unit, not pseudowhorled; leaf blade ovate to ovate-elliptic (2–)3–8 × 2–4.5 mm, the apex shortly acuminate, the base broadly cuneate, the margin entire, slightly revolute, the midrib impressed above in lower 1/2–2/3, inconspicuous to just visible at the base of the upper surface, the veins inconspicuous, dark green above with the margin becoming brown, light brown beneath, initially lepidote on both surfaces becoming glabrous above with age (with visible impressions where the scales once were), persistently subdensely to laxly lepidote beneath (the scales brown, irregularly lobed and sessile); petiole 1–1.6 × 0.5

mm, flattened, lepidote on both surfaces. *Floral bud* unopened 4.5–6.5 × 2.5 mm; outer perulae ovate, acuminate at the apex, the abaxial surface very sparsely lepidote, the scales on the margin obscurely stalked; inner perulae the same as the outer perulae but narrower and shortly acuminate. *Pedicels* densely lepidote and hairy, (15.2–)19.5–31 × 0.6–0.9 mm at anthesis, 34–41 mm long in fruit. *Flowers* solitary, held erect, the perulae sometimes persistent. *Calyx* 5-lobed, ca. 2 mm diam., obtuse to rounded-obtuse, lepidote and hairy; lobes 0.7–1.5 × ca. 0.8 mm, the lobe margin with stalked scales. *Corolla* slightly curved campanulate, (15–)17–20 × 13–15.5 mm, bright red to red, waxy, moderately lepidote outside (extending over the entire tube and onto the lower middle part of the lobes), glabrous inside; tube (9–)11–13.5 × 3.5–5 mm (wide at the base) and 5.3–8 mm (wide at the throat); lobes circular to circular-obovate, 5.5–8.5 × 6.5–8.5 mm, overlapping at the base, rounded or retuse at the apex. *Stamens* 10, appearing unequal in length, ex-

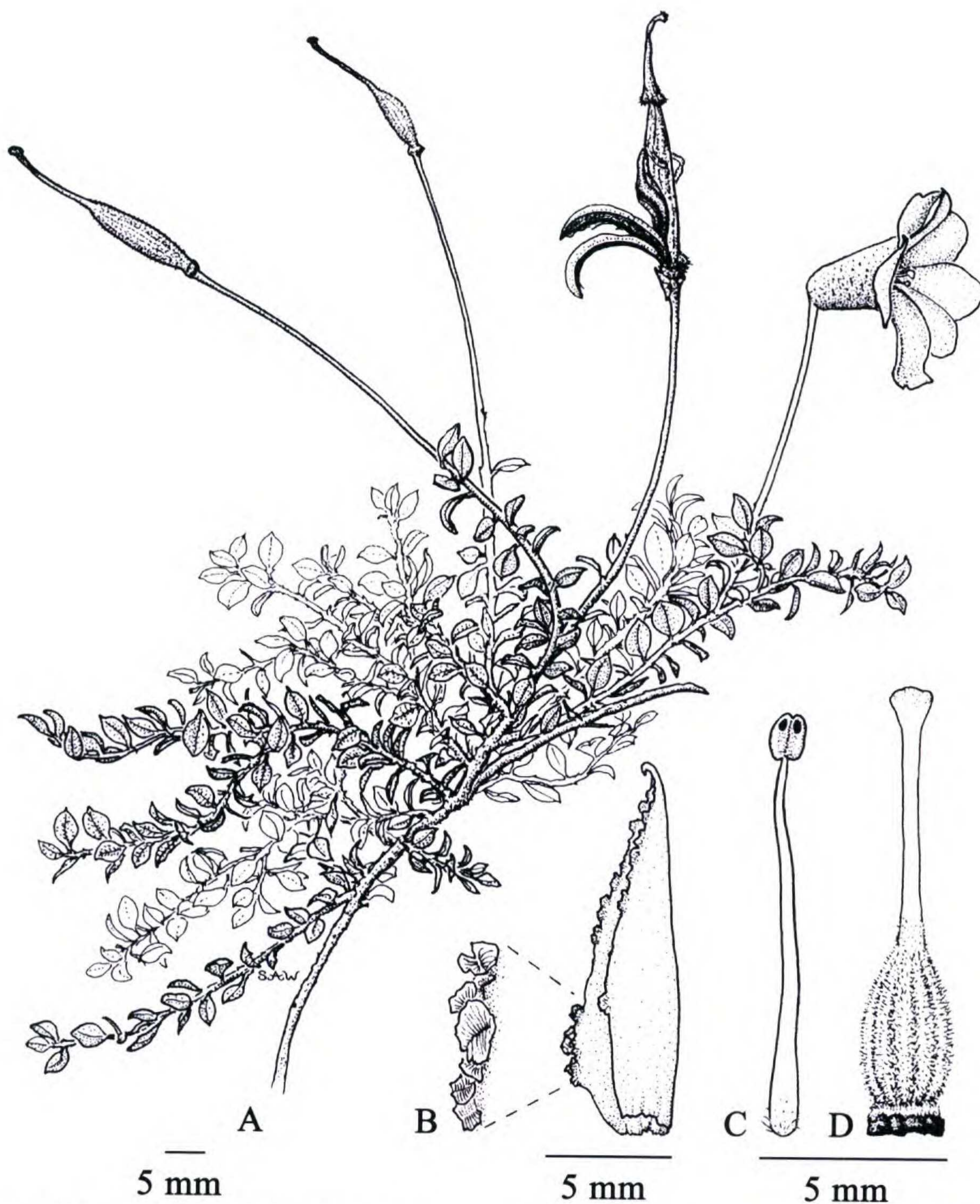


Figure 1. *Rhododendron xenium* Gillian Brown & Craven. —A. Habit, flower orientation, and fruit dehiscence. —B. Inner perula (detail of the margin enlarged; stalks of scales not apparent). —C. Stamen. —D. Gynoecium. Drawn from *G. Hope ANU 10847* (CANB).

sented slightly from the corolla tube, stamens appear to be arranged equally around the mouth; filaments linear, 10–11 mm long, glabrous except for a few hairs at the very base; anthers broadly oblong, $1.2\text{--}1.6 \times \text{ca. } 1 \text{ mm}$. *Disc* 10-lobed, ca. 0.6 mm high, 2–2.5 mm diam., with dense erect white hairs at the apex. *Ovary* subcylindrical, $(2.7\text{--})3\text{--}4 \times \text{ca. } 2 \text{ mm}$, broadly tapering to the style, ribbed, densely covered in short white hairs over a subdense to lax layer of scales; style $4.3\text{--}8.4 \times \text{ca. } 0.7 \text{ mm}$, hairy in the proximal $1/4\text{--}1/2$, glabrous for the remainder, slightly shorter than the corolla tube; stigma capitate, 5-lobed. *Capsule* fusiform; immature fruits $14\text{--}14.5 \times \text{ca. } 3.5 \text{ mm}$, purplish when dry, both hairy

and lepidote (less dense than on the ovary); mature fruits ca. 20 mm long (excluding the style), brown, with no visible indumentum, the style persistent, when dehiscing the valves peeling back with only slight twisting at the base. *Seeds* not seen.

N.B. Floral measurements were determined by the method given in Argent et al. (1988).

Distribution and habitat. Known only from Carstensz Meadow at Mount Jaya in West Papua (Irian Jaya), New Guinea. Recorded as growing in crevices in peat in very griked limestone slopes [trenched limestone slopes due to solution along a

joint], and on rocky slopes on the forest margin. Altitude 3520–3540 m.

Paratype. INDONESIA. **West Papua (Irian Jaya):** limestone hill at S end of Carstensz Meadow, Mount Jaya (Carstensz Mountains.), alt. 3520 m, 13 Dec. 1971, G. Hope, C.G.E., ANU 10840A (CANB).

KEY TO *RHODODENDRON XENIUM* AND RELATED SPECIES

Couplet 2 of subsection *Euwireya* ser. *Linnaeoidea* in Sleumer (1966: 568) can be replaced with the following couplets that will permit specimens of *Rhododendron anagalliflorum*, *R. rubineiflorum*, *R. womersleyi*, and *R. xenium* to be identified.

2. Style at anthesis relatively short, i.e., approximately as long as the ovary or shorter. Calyx exclusively lepidote. Corolla straight, never curved.
 - 2a. Corolla funnel-shaped with elliptic lobes, white, flushed with purple from the base. Anthers 0.6 mm long *R. anagalliflorum*
 - 2a. Corolla campanulate to broadly funnel-shaped campanulate with orbicular lobes, red to pink. Anthers 1.2–1.5 mm long *R. rubineiflorum*
2. Style at anthesis at least two times as long as the ovary. Calyx both lepidote and hairy. Corolla slightly curved.
 - 2b. Pedicel shorter than the total length of the corolla at anthesis. Corolla tubular. Abaxial surface of perulae glabrous *R. womersleyi*
 - 2b. Pedicel longer than the total length of the corolla at anthesis. Corolla campanulate.

Abaxial surface of perulae \pm sparsely lepidote *R. xenium*

Acknowledgments. The curator of CANB is thanked for the opportunity to study specimens deposited therein. The first author is the recipient of a Melbourne University Research Scholarship. The Baker Foundation is thanked for its financial support of the research project of which the present contribution forms a part. Sharyn Wragg is thanked for preparing the illustration, and the interest of John L. Rouse in our research is gratefully acknowledged.

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